REMARKS

Examiner O. Nadav is thanked for the thorough examination and search of the subject Patent Application and for finding allowable subject matter in Claims 14-20.

All Claims are believed to be in condition for Allowance, and that is so requested.

Reconsideration of Claims 1-13 rejected under 35 U.S.C. 112, first paragraph, is requested based on Amended Claims 1 and 8 and the following remarks.

The Examiner rejects Claims 1-13 under 35 U.S.C. 112, first paragraph, indicating those Claims contain subject matter which has not been described in the Specification in such a way as to convey to one skilled in the relevant art that the inventor(s), at the time the Application was filed, had possession of the claimed invention. The Examiner also interprets the present invention as not disclosing a device consisting of the limitations as recited in Claims 1 and 8. More specifically, the Examiner thinks there is no device whose p+ region of a p-well is not grounded in the Specification.

This kind of rejection has been explicitly discussed in MPEP 2161 - 2165.04 as "the Written Description Requirement." Applicant does not agree with the Examiner's reason of rejection due to the Written Description Requirement and believes that the Written Description Requirement has been satisfied in the Specification of this Application as explained below.

An excerpt of MPEP 2163.02 is listed below:

"An objective standard for determining compliance with the written description requirement is, "does the description clearly allow persons of ordinary skill in the art to recognize that he or she invented what is claimed." In re Gosteli, 872 F.2d 1008, 1012, 10 USPQ2d 1614 (Fed. Cir. 1989). Under Vas-Cath, Inc. v. Mahurkar, 935 F2d 155, 1563-64, 19 USPQ2d 1111, 1117 (Fed. Cir. 1991), to satisfy the written description requirement, an applicant must convey with reasonable clarity to those skilled in the art that, as of the filing date sought, he or she was in possession of the invention, and that the invention, in that context, is whatever is now claimed. The test for sufficiency of support in a parent application is whether the disclosure of the application relied upon "reasonably

conveys to the artisan that the inventor had possession at that time of the later claimed subject matter." Ralston Purina Co. v. Far-Mar-Co., Inc., 772 F2d 1570, 1575, 227 USPQ 177, 179 (Fed. Cir. 1985) (qouting In re Kaslow, 707 F2d 1366, 1375, 217 USPQ 1089, 1096 (Fed. Cir. 1983))."

Please refer to the second paragraph, page 7, of the present Specification, which is part of "SUMMARY OF THE INVENTION" and is duplicated below:

"In accordance with the objects of this invention, a new electrostatic discharge protection device is achieved. A p-well region is in a semiconductor substrate. An n+ region in the p-well region is connected to a first voltage supply. An n-well region in the p-well region is spaced from the n+ region such that a depletion region will extend therebetween during normal operation. A p+ region in the n-well region is connected to a second voltage supply of greater value than the first voltage supply during normal operation. Current is conducted through the n+ region to the p+ region during an electrostatic discharge event."

The Inventor clearly declares in the above paragraph that an ESD protection device is achieved. Most importantly, this ESD device does not specify a ground p-well. Though, the preferred embodiment of an ESD protection device disclosed in the Specification does have a p-well that is grounded during normal operation, this is only a preferred embodiment. Persons in the art, after reviewing the preferred embodiment and reviewing the summary of the invention, will conclude that the key inventive point of the present invention is the distance between the n-well region and the n+ region of the p-n-p-n structure and how this distance guarantees that a depletion region extends therebetween regardless of whether the p-well is grounded or is ungrounded. This is the key inventive point conveyed in both the summary of the invention and in Claim 1.

By way of example, a SCR device and a Shockley diode, as shown in Attachment 1 that has been printed from a publicly accessible website, are both well-known to persons in the art of semiconductor devices as devices that use p-n-p-n structures. Attachment A further shows that the SCR "is a Shockley diode that also has a third terminal that controls the gate." It is common in the art to describe the first device - the SCR - by using the second device - the Shockley diode - as the reference

point. There is a high correlation between a SCR and a Shockley diode, not to mention that they each have very low resistance during ON-state and are very suitable for discharging currents. It is obvious for one skilled in the art to think about a SCR when describing a Shockley diode, and visa versa.

Referring again to the preferred embodiment of the present Application, in the first paragraph of page 16, the device of the present invention is described as one that performs "in a fashion similar to a p-n-p-n or silicon controlled rectifier (SCR) device" because of the electrical connection of the preferred embodiment. Nowhere in the Specification can one find a teaching against floating the p-well (not connecting the p-well to ground). In view of the discussion regarding the SCR device above, it is clear that one skilled in the art will obviously think of an alternative form of the preferred embodiment in which no electrical connection is made to the p-well just as is done in the p-n-p-n, Shockley diode. After referencing Claim 1 and the summary of invention description, as originally filed, one skilled in the art will reasonably conclude that the inventor was is possession of an SCR-like device or of a Shockley-diode-like device as claimed in the original Claims.

In other words, the disclosure of this present Application reasonably conveys to the artisan that the inventor had possession of the claimed invention at the time of the originally claimed subject matter and that the Written Description Requirement has been satisfied. The rejection under 35 U.S.C. 112, first paragraph, for this application should, therefore, be withdrawn.

Reconsideration of Claims 1-13 rejected under 35 U.S.C. 112, first paragraph, is requested based on Amended Claims 1 and 8 and the above remarks.

Applicants have reviewed the prior art made of record and not relied upon and agree with the Examiner that while the references are of general interest, they do not apply to the detailed Claims of the present invention.

Allowance of all Claims is requested.

It is requested that should Examiner O. Nadav not find that the Claims are now Allowable that he call the undersigned at 989-894-4392 to overcome any problems preventing allowance.

A copy of a summary of active devices, including the Shockley diode and the SCR, is attached to this response.

Respectfully submitted,

Douglas R Schnabel

Douglas R. Schnabel, Reg. No. 47,927

	changes in current through it.
	Diode: Allows current to flow in only one direction.
	Zener Diode: A Zener diode is designed to operate in the reverse breakdown or zener region. Used primarily for voltage regulation.
	Shockley Diode: Similar to a normal diode but the shockley diode remains off until the forward current reaches the forward break over voltage, also called the switching voltage.
	SCR, Silicon-Controlled Rectifier: Is a Shockley diode that also has a third terminal that controls the gate. Current can pass in the forward direction when it reaches break over voltage or when a current pulse is applied to the gate.
	Diac: A diac is a voltage dependant bi-directional switch. It functions like two Shockley diodes back to back. The diac restricts current flow in both directions until the voltage across the diac exceeds the switching voltage.
	Triac: A triac is a bi-directional switch capable of conducting current in both directions. The triac operates like a diac but also has a gate like the SCR.
	Full-Wave Bridge Rectifier: Made up of four diodes and does a full wave rectification of the input AC voltage. The top and bottom can be used for the AC input terminals. The left and right terminals can be used for the DC terminals. The average DC voltage is given by: VDC= 0.636*(VP - 1.4) Where VP is the peak value of the input AC voltage.
	LED or Light Emitting Diode: Emits visible light when forward current through it exceeds Ifn.
	NPN Transistor: A NPN Transistor is a valve or switch for current. It is turned on and off by the amount of positive current present at the base. The terminal with the arrowhead is the emitter
	PNP Transistor: Like above but is regulated by negative current on the base in stead of positive.
	Opamp (Operational Amplifier): A opamp is a amplifier that has a very high voltage gain, Very high input impedance and a very low output impedance. The + is a non inverting input and the - is a inverting input. The 741 shown is a 5 terminal Opamp. It is a improvement to the one below. Its two extra terminals are used for a positive and negative power supply.
	Multiplier: A multiplier multiplies two input voltsges. The output is given by: Vout=kVxVy Where: k = multiplier constant

Attachment A
website

Shockley Diode description

SCR description

4/4